

12-10-04

7/26/03

RICK D. NYDEGGER
BRENT P. LORIMER
THOMAS R. VUKINICK
LARRY R. LACOCK
JONATHAN W. RICHARD
DAVID R. WRIGHT
JOHN C. STRINGHAM
JOHN M. GUYNN
CHARLES L. ROBERTS
DANA L. TANGREN
ERIC L. MANCHOFF
CHARLES J. VEVERKA
ROBYN L. PHILLIPS
RICHARD C. GILMORE *
STERLING A. BRENNAN
R. BURNS ISRAELSEN
DAVID R. TODD
GREGORY M. TAYLOR
DAVID B. DELLENBACH
L. DAVID GRIFFIN
ADRIAN J. LEE
FRASER D. ROY
CARL T. REED



WORKMAN | NYDEGGER
INTELLECTUAL PROPERTY ATTORNEYS

1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111
TELEPHONE: (801) 533-9800
FAX: (801) 328-1707
WEBSITE: [HTTP://WWW.WNLAW.COM](http://www.wnlaw.com)

Express Mailing Label No. EL 996 741 598 US

PATENT APPLICATION
Docket No: 15436.247.45.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Jeffrey D. Walker

Serial No.: 10/017,358) Art Unit
Filing Date: December 13, 2001) 2633
Confirmation No.: 6851)
For: OPTICAL LATCH BASED ON LASING)
SEMICONDUCTOR OPTICAL AMPLIFIER)



R. PARRISH FREEMAN, JR.
PETER F. MALEN, JR.
L. REX SEARS, PH.D.
WILLIAM R. RICHTER
ERIC M. KAMERATH
ROBERT E. AYCOCK
JENS C. JENKINS
KEVIN W. STINGER
WILLIAM J. ATHAY
MICHAEL B. DODD
RYAN D. BENSON
SARA D. JONES
TIGE KELLER
JANNA L. JENSEN
MATTHEW D. TODD
J. LAVAR OLDHAM
MICHAEL J. FRODSHAM
JOSEPH L. KRUPA
BRETT A. HANSEN
BRETT I. JOHNSON
MATTHEW A. BARLOW
WESLEY C. ROSANDER
ANDREW S. HANSEN
CHAD E. NYDEGGER
JOSEPH G. PIA
CLINTON E. DUKE
DAVID J. LORENZ †
RYAN N. FARR *
JAMES B. BELSHE

TRANSMITTAL FOR SUPPLEMENTAL INFORMATION DISCLOSURE
STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith for filing and pursuant to 37 C.F.R. § 1.97 is a Supplemental Information Disclosure Statement, which includes the following statements, if any, required variously by 37 C.F.R. § 1.98:

- Statement of relevance of selected cited references not in the English language which are not translated.
- Statement that selected cited references are substantially cumulative of an enclosed or previously submitted reference.
- Statement that selected cited references were previously cited by or submitted to the United States Patent and Trademark Office in a prior application which is relied upon for an earlier filing date under 35 U.S.C. § 120.

A. Additional Materials Required Due to Content of Information Disclosure Statement

Transmitted are the following documents in addition to the Supplemental Information Disclosure Statement as required variously under 37 C.F.R. § 1.98:

- Form PTO-1449 listing 41 references submitted for consideration.
- A copy of each of the references listed on the Form PTO-1449.
- English translations of _____ (_____) of the references listed on the Form PTO-1449 which are not in the English language.
- Copies of the following documents from the prosecution of a previous, related application:
 - Form PTO-1449 AND INFORMATION DISCLOSURE STATEMENT; and
 - Form PTO-892

B. Additional Materials Required Due to Timing of Filing of Information Disclosure Statement

The transmitted Supplemental Information Disclosure Statement is being filed within one (1) of the following four (4) time periods:

- I. Prior to the later of either three (3) months following the filing date or the mailing of a first Office Action. Accordingly, no materials other than those listed above are enclosed.
- II. Following the latter of either three (3) months following the filing date or the mailing of a first Office Action, but before the mailing of a final Office Action or a Notice of Allowance. Accordingly, to secure consideration thereof, one (1) of the following is also enclosed:
 - Promptness Certification; or
 - Check No. _____ in the amount of _____ constituting the submission fee set forth in 37 C.F.R. § 1.17(p).
- III. After the mailing of a Notice of Allowance, but before payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are also enclosed:
 - Promptness Certificate;
 - Petition for Consideration; and

- Check No. in the amount of _____ constituting the petition fee set forth in 37 C.F.R. § 1.17(i)(1).
- IV. After payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are also enclosed:
 - Petition to Withdraw from Issue; and
 - Check No. _____ in the amount of _____ constituting the petition fee set forth in 37 C.F.R. § 1.17(i)(1).

C. Fees

The Commissioner is hereby authorized to charge payment of or any deficiency in the following fees associated with this communication, or to credit any overpayment thereof, to Deposit Account No. 23-3178. A duplicate copy of this letter is enclosed.

- Any fee required in relation to filing of this letter or any documents transmitted therewith.
- The submission fee set forth in 37 C.F.R. § 1.17(p) in the event that 37 C.F.R. § 1.97(c) applies and the Examiner is not satisfied that any Promptness Certificate submitted meets the requirements of 37 C.F.R. § 1.97(e).
- The submission fee set forth in 37 C.F.R. § 1.17(p).
- The petition fee set forth in 37 C.F.R. § 1.17(i)(1).

Dated this 9th day of December 2004.

Respectfully submitted,



CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913
Telephone No. 801.533.9800



Express Mailing Label No. EL 996 741 598 US

PATENT APPLICATION
Docket No: 15436.247.45.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
 Jeffrey D. Walker)
)
 Serial No.: 10/017,358) Art Unit
) 2633
 Filing Date: December 13, 2001)
)
 Confirmation No.: 6851)
)
 For: OPTICAL LATCH BASED ON LASING)
 SEMICONDUCTOR OPTICAL AMPLIFIER)

CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.10

I hereby certify that the following documents are being deposited with the United States Postal Service as Express Mail Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450, on the 9th day of December 2004.

- Transmittal for Supplemental Information Disclosure Statement (3 pages)
- Supplemental Information Disclosure Statement (2 pages)
- Form PTO-1449 listing 41 references (4 pages)
- A copy of each of the references listed on the Form PTO-1449
- Postcard

Respectfully submitted,

CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913
Telephone No. 801.533.9800

CTR:dfw
W:\15436\247.45.1.1\DFW0000012529V001.DOC



Express Mailing Label No. EL 996 741 598 US

PATENT APPLICATION
Docket No: 15436.247.45.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)	
)	
Jeffrey D. Walker)	
)	
Serial No.:	10/017,358) Art Unit
) 2633
Filing Date:	December 13, 2001)
)
Confirmation No.:	6851)
)
For:	OPTICAL LATCH BASED ON LASING)
	SEMICONDUCTOR OPTICAL AMPLIFIER)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed listed references are disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof that is not a US patent document is also enclosed.

Statement of Relevance of References Listed

Unaccompanied by English Translation

Under 37 CFR § 1.98(a)(3)

In accordance with 37 CFR § 1.98(a)(3), the following concise explanation of the relevance of each listed reference that is not in the English language and unaccompanied by a translation into English is provided.

Japanese Application No. JP02000012978A: PROBLEM TO BE SOLVED: to amplify a signal light having nearby wavelength of that of a laser oscillation light by outputting only an amplified signal light, without the use of an optical filter in a optical amplifier using an operational principle of a traditional gain clamp semiconductor optical amplifier.

Dated this 9th day of December 2004.

Respectfully submitted,



CARL T. REED
Attorney for Applicant
Registration No. 45,454
Customer No. 022913
Telephone No. 801.533.9800

CTR:dfw

W:\15436\247.45.1.1\DFW0000012529V001.DOC

Applicant: Jeffrey D. Walker
 Serial No.: 10/017,358
 Filing Date: December 13, 2001
 For: OPTICAL TRANSMITTER INCLUDING A LINEAR SEMICONDUCTOR OPTICAL AMPLIFIER



Sheet 1 of 4
 Confirmation No.: 6851
 Att'y Docket No.: 15436.247.45.1.1
 Group: 2633

SUPPLEMENTAL INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner <u>Initial*</u>	Document <u>Number</u>	Issue <u>Date</u>	Name
____ 1	4,794,346	12/27/1988	Miller
____ 2	5,299,054	03/29/1994	Geiger
____ 3	5,305,412	04/19/1994	Paoli
____ 4	5,604,628	02/18/1997	Parker et al.
____ 5	5,654,822 B1	08/05/1997	Ducellier et al.
____ 6	5,673,141 B1	09/30/1997	Gambini
____ 7	5,748,653	05/05/1998	Parker et al.
____ 8	5,754,571	05/19/1998	Endoh et al.
____ 9	5,771,320	06/23/1998	Stone
____ 10	5,778,132	07/07/1998	Csipkes et al.
____ 11	5,805,322	09/08/1998	Tomofuji
____ 12	5,999,293	12/07/1999	Manning
____ 13	6,061,156	05/09/2000	Takeshita et al.
____ 14	6,128,115	10/03/2000	Shiragaki et al.
____ 15	6,215,583 B1	11/13/2001	Chen et al.
____ 16	6,317,531 B1	04/10/2001	Lagerstrom et al.
____ 17	6,333,799 B1	12/25/2001	Bala et al.
____ 18	6,335,992 B1	01/01/2002	Bala et al.
____ 19	6,347,104 B1	02/12/2002	Dijaili et al.
____ 20	6,462,865 B1	10/08/2002	Chu et al.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Jeffrey D. Walker
 Serial No.: 10/017,358
 Filing Date: December 13, 2001
 For: OPTICAL TRANSMITTER INCLUDING A LINEAR SEMICONDUCTOR OPTICAL AMPLIFIER



Sheet 2 of 4
 Confirmation No.: 6851
 Att'y Docket No.: 15436.247.45.1.1
 Group: 2633

21	6,522,462 B2	02/18/2003	Chu et al.
22	6,577,654 B1	06/10/2003	Dijaili et al.
23	6,707,600 B1	03/16/2004	Dijaili et al.
24	6,714,344 B2	03/30/2004	Islam et al.
25	2002/0001112	01/03/2002	Song

Foreign Patent Documents

Examiner Initial*	Document Number	Publication Date	Country or Patent Office	Translation
26	02000012978A	01/14/2000	Japan	No

Other Documents
 (including author, title, pertinent pages, etc.)

Examiner
Initial*

27 S. Diez et al., *All-Optical Switch for TDM and WDM/TDM Systems Demonstrated in a 640 Gbit/s Demultiplexing Experiment*, Electronics Letters, Vol. 34, No. 8, pp. 803-805, April 16, 1988.

28 S. Diez et al., *Gain-Transparent SOA-Switch for High-Bitrate OTDM Add/Drop Multiplexing*, IEEE Photonic Technology Letters, Vol. 11, No. 1, pp. 60-62, January 1999.

29 S. Diez et al., *Novel Gain-Transparent SOA-Switch for High Bitrate ODTM Add/Drop Multiplexing*, ECOC 1998, Vol. 1, pp. 461-462, September 1998.

30 B. Femier et al., *Fast (3000 ps) Polarization Insensitive Semiconductor Optical Amplifier Switch with Low Driving Current (70 mA)*, Semiconductor Laser Conference, Conference Digest, 14th IEEE International, pp. 130-131, September 21-15, 1992.

31 J.E. Fouquet et al., *Compact, Scalable Fiber Optic Cross-Connect Switches*, IEEE, 1999 Digest of the LEOS Summer Topical Meetings, pp. 59-60, 1999.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Applicant: Jeffrey D. Walker
 Serial No.: 10/017,358
 Filing Date: December 13, 2001
 For: OPTICAL TRANSMITTER INCLUDING A LINEAR SEMICONDUCTOR OPTICAL AMPLIFIER

Sheet 3 of 4
 Confirmation No.: 6851
 Att'y Docket No.: 15436.247.45.1.1
 Group: 2633

32 M.M. Ibrahim, *Photonic Switch Using Surface-Emitting Laser Diode and AOD*, 16th National Radio Science Conference, NRSC 1999, pp. 1-8, Ain Shams University, Cairo, Egypt, February 23-25, 1999.

33 J. Mork et al., *Semiconductor Devices for All-Optical Signal Processing: Just How Fast Can They Go?*, IEEE Lasers and Electro-Optics Society 1999 12th Annual Meeting, LEOS 1999, Vol. 2, pp. 900-901, November 8-11, 1999.

34 K. Panajotov et al., *Polarisation Switching in Proton-Implanted VCSELs*, 1999 Digest of the LEOS Summer Topical Meetings, pp. 55-56, July 26-30, 1999.

35 B.C. Qui et al., *Monolithically Integrated Fabrication of 2x2 and 4x4 Crosspoint Switches Using Quantum Well Intermixing*, 2000 International Conference on Indium Phosphide and Related Materials, Conference Proceedings, pp. 415-418, May 14-18, 2000.

36 J. Scheuer et al., *Nonlinear On-Switching of High Spatial Frequency Patterns in Ring Vertical Cavity Surface Emitting Lasers*, 1999 IEEE LEOS Annual Meeting Conference Proceedings, 12th Annual Meeting, IEEE Lasers and Electro-Optics Society 1999 Annual Meeting, Vol. 1, pp. 123-124, November 8-9, 1999.

37 H. Soto et al., *All-Optical Switch Demonstration Using a Birefringence Effect in a Semiconductor Optical Amplifier*, IEEE CLEO, Pacific rim 1999, pp. 886-889, 1999.

38 N. Yoshimoto et al., *Spot-Size Converted Polarization-Insensitive SOA Gate with a Vertical Tapered Submicrometer Stripe Structure*, IEEE Photonics Technology Letters, Vol. 10, No. 4, pp. 510-512, April 4, 1998.

39 Wolfson et al., *Detailed Theoretical Investigation of the Input Power Dynamic Range for Gain-Clamped Semiconductor Optical Amplifier Gates at 10 Gb/s*, IEEE Photonics Technology Letters, 1998, Vol. 10, No. 9, pp. 1241-1243.

40 F. Robert et al., *All-Optical Set-Rest Operation of a Bistable Semiconductor Laser Intracavity-Coupled to a Vertical-Cavity Surface-Emitting Laser*, IEEE Photonic Technology, Letters, Vol. 12, No. 5, May 2000, pp. 465-467.

41 D.B. Shire et al., *Gain Controlled Vertical Cavity Surface Emitting Lasers Coupled with Intracavity In-plane Lasers*, Appl. Phys. Lett. Vol. 66, No. 14, April 3, 1995, pp. 1717-1719.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Jeffrey D. Walker

Serial No.: 10/017,358

Filing Date: December 13, 2001

For: OPTICAL TRANSMITTER INCLUDING A LINEAR SEMICONDUCTOR OPTICAL AMPLIFIER



Confirmation No.: 6851

Att'y Docket No.: 15436.247.45.1.1

Group: 2633

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

W:\15436\247.45.1.1\DFW0000012531V001.doc

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.